

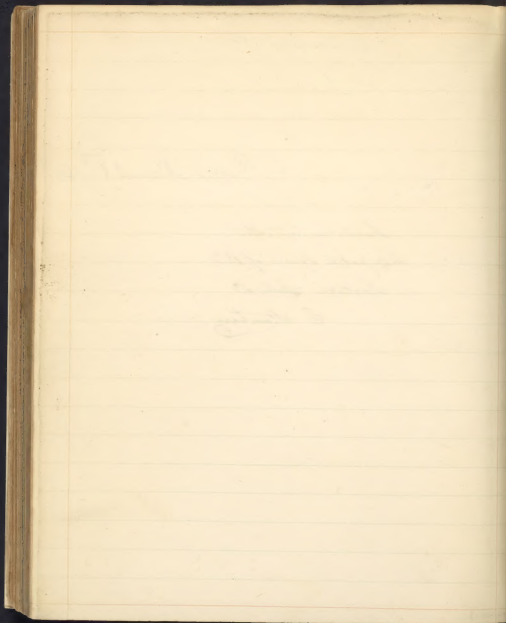
27 Sanson St.

Lactucarium

pretty good - a few words misspelled.

Paperd March 8th 1826

Lactucarium the
Suspended Juice of the
Lactuca Saliva,
E. Stanbery



An

Inaugural Dissertation

On

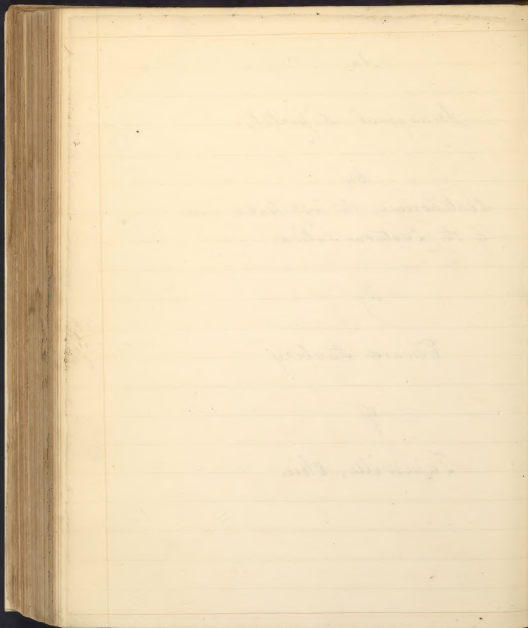
Lactucarium, the inspissated juice
of the *Lactuca Sativa*.

By

Edward Stanbery

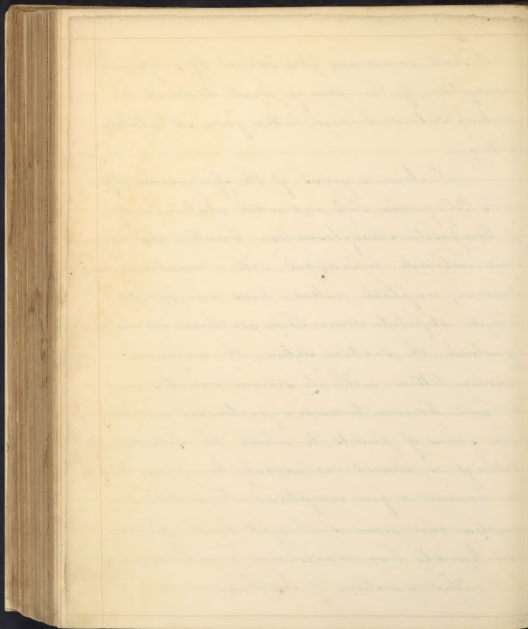
of

Lanesville, Ohio.



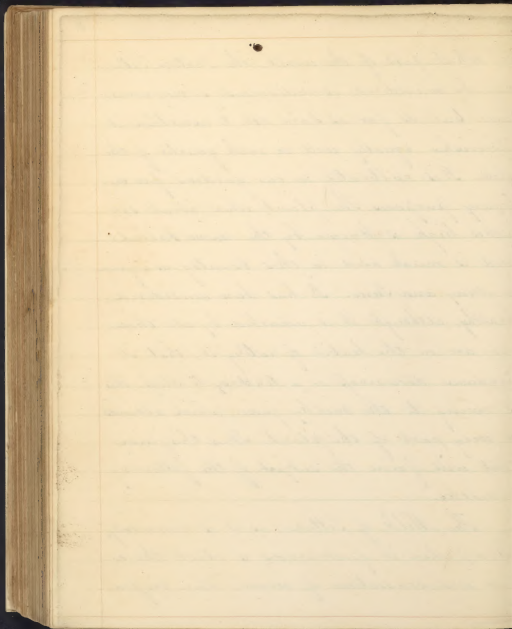
I shall commence this subject by a botanical description of the genus of plants, to which the *Lactuca sativa* belongs, taken from M^r. Nodding.

Lactuca a genus of the Syngenesia. Nyctalis Polygamia. class and order. Natural order of Composita Semiflosculosa. Essential character: calyx imbricate, cylindrical, with a membranaceous margin; receptacle naked; seeds even, with a simple stipitate down. There are eleven species, of which, the *Lactuca sativa*, the common garden lettuce, with its several varieties are so well known to need a particular description. The genus of plants to which the Lettuce belongs, is almost exclusively European. There are however a few exceptions. The *Lactuca Scariola* and some, is thought by M^r. Nodding was hardly been considered a natural group, but rather a section of *Senecio*.



To what part of the world, the *Lactuca salina* may be considered as indigenous, is very uncertain, but as far as I am able to ascertain, it flourishes equally well in each quarter of the globe. It is cultivated in our gardens, for culinary purposes. The plant when about six inches high is known by the name *Sallads* and is much used in this country as a green in May and June. It has been considered healthy, although it is remarked by all those who are in the habit of eating it, that it produces drowsiness or a tendency to sleep - this is owing to the milky juice, which abounds in every part of the plant. It is this juice that will form the subject of the following remarks.

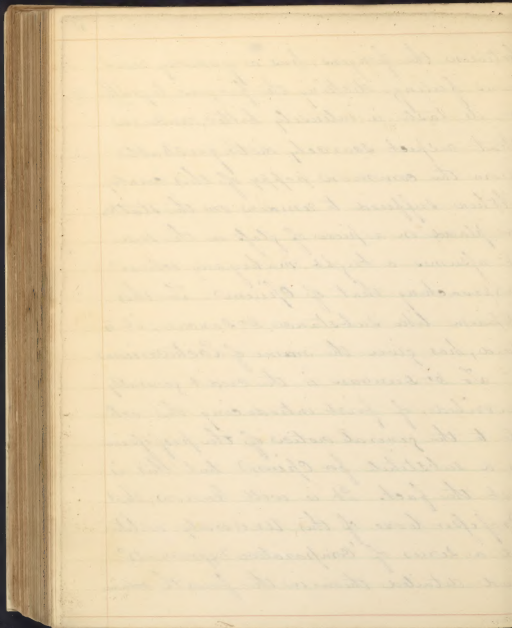
The Milk of Lettuce (as it is commonly called) when it first exudes, is about the colour and consistence of cream; when pressed



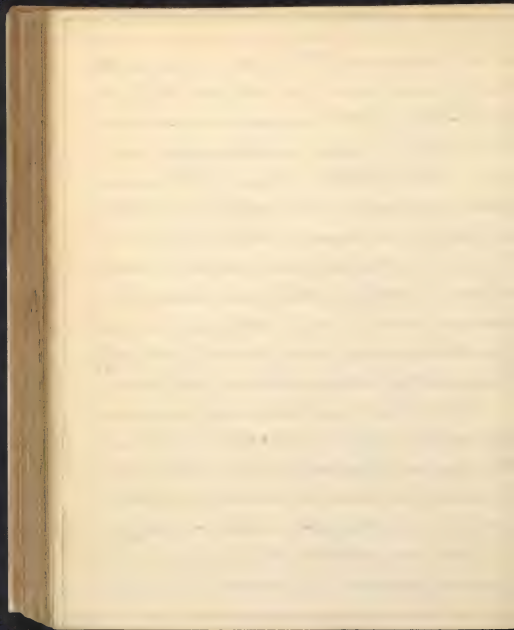
between the fingers, has a gummy resinous feeling, sticking the fingers together & its taste is intensely bitter, and in that respect scarcely distinguishable from the common poppy of this country.

When suffered to remain on the stalk, or placed on a piece of glass in the sun, it assumes a bright mahogany colour approaching that of Opium. To this Opium like substance, Dr Duncan; it is said, has given the name of *Lactucarium*.

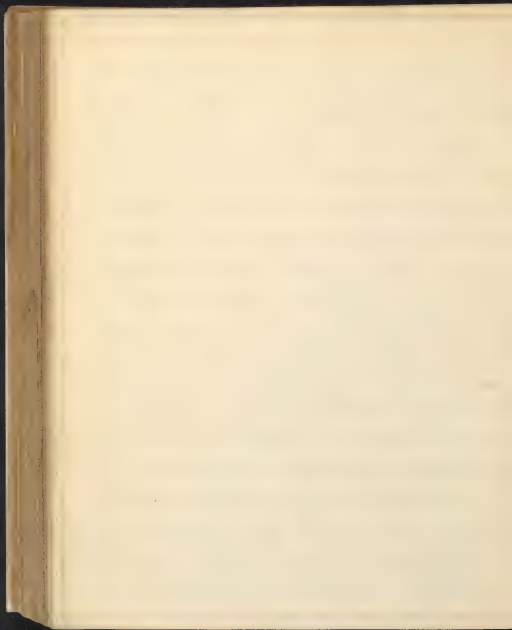
To Dr Duncan is the credit generally ascribed, of first introducing this article to the general notice of the profession as a substitute for Opium. but this is not the fact. It is well known, that Professor Loeve of this University, instituted a series of "Comparative Experiments" and detailed them in the fourth volume



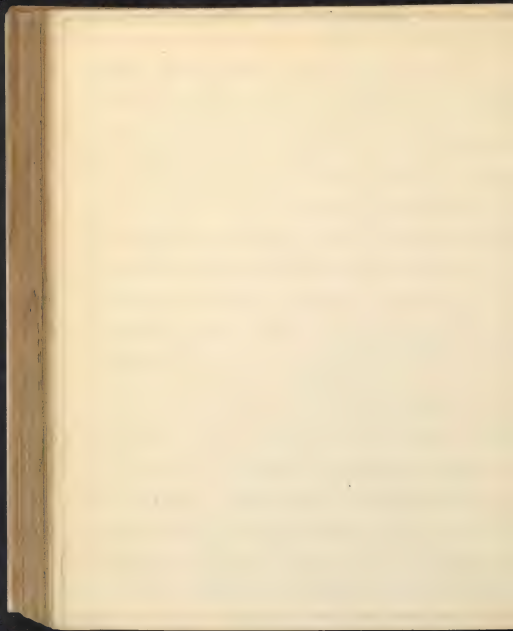
of the American Philosophical Transactions
 twenty five years ago. Whereas the first
 publication of Dr Saneous on this subject
 was written in 1810. In this essay, he
 now not mention a word of Professor
 Lewis experiments, but sincerely and sha-
 mefully endeavours to obtain the credit
 of first introducing it to notice himself.
 There is nothing that more betrays a
 false ungenerous spirit, than endeavou-
 ring to build up ones fame, by detracting
 from that of others. This is the case
 in the present instance, and is one among
 the many, that have occurred, where
 the English Physicians have taken to
 themselves discoveries, which is well known
 were first introduced in this country.
 It has since attracted the attention of the
 Physicians of Europe and substituted for them



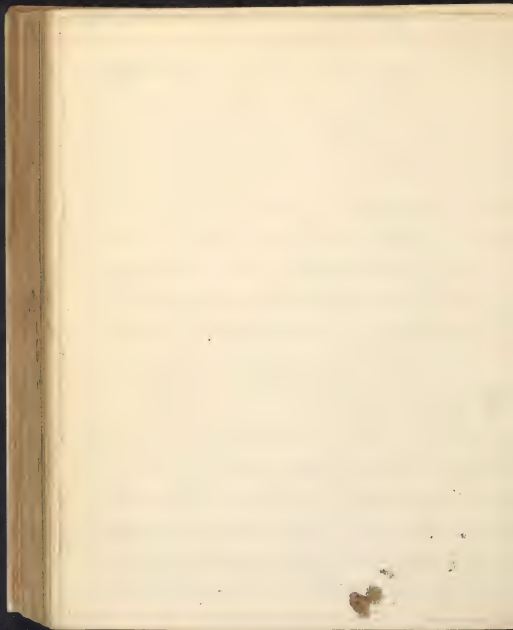
and experiments have been instituted to the
 purpose of obtaining it in sufficient quan-
 tities, not only for exportation, but the con-
 sumption. For this purpose the United
 States Horticultural Society at their
 General Meeting on the 6th of March
 1840 proposed a medal for the follow-
 ing question, "For the best method of
 preparing a Superior Opium from
 the inspissated juice of the common
 Garden's Culture. An announcement of
 this was distributed by official
 gardeners. Mr. Henderson at Wash-
 ington Mr. Davis at Natick transmitted
 to the Society excellent specimens of
 the refined Opium, and their method
 of preparing it. The account of their
 mode of preparing it I am unable
 to give. At the same time and



place, at Dr. S. Duncan read to the above
 society a dissertation entitled, "Theore-
 tical and a preparation of a Sclerotic
 Medicine from common Carduus
 marianus. The following is the method
 by which he prepared it." I altered
 the plants above 100 in number, to
 break up, till the top of the stem
 was about a foot above the surface
 of the ground. I then cut off an in-
 ch of the top of each. The milky
 juice immediately began to rise
 about the wounded surface. Though
 then of a white appearance, it had
 next day formed a black & dark color
 in incrustation, over the surface where
 the stem was cut off. I found it
 impossible to separate this by wash-
 ing, as it is one with the rising



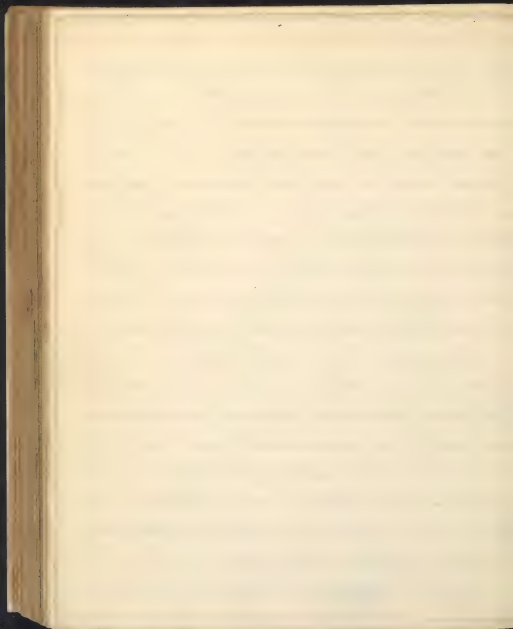
the mixture was the same as the first
but it had given rise to the formation of
the first one off with a sharp knife
a thin cross slice of the stem branch
to make of the dark coloured thin
the substance ahead. This was
broken into a wide mouthed pint, also
at half filled with weak spirit of
wine, the Alcohol Dilutum of the
United States Pharmacopoeia, formed
of equal parts of rectified spirit
and water. By this menstruum
the whole black incrustation on
in thin slice of the stick was soft-
ened and the spirit as may be re-
mained in vessel obtained both the
colours and taste of the black incrustations.
Each of my parts in consequence of the fresh water
applied by the removal of the thin cross slice often



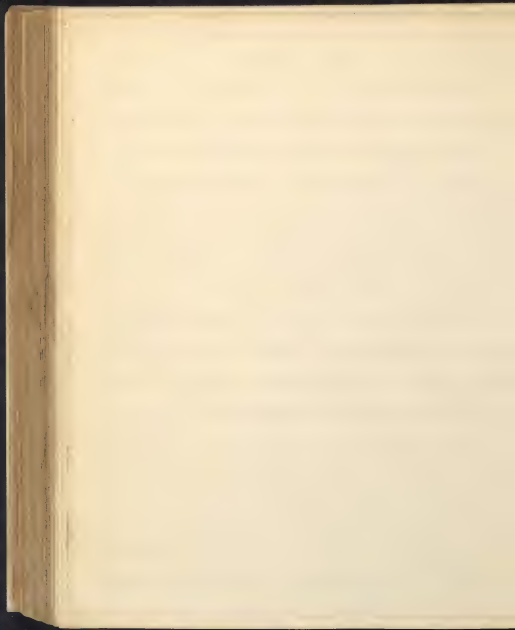
and a fresh incrustation every day. And by the
 mixing these into a acid, I soon obtained what I
 considered to be a saturated solution from the undissolved
 of the latter, or rather the milky juice in its in-
 soluble state. It was then strained off & spe-
 cially the pure solution from the thin skins of the
 stalk. To this strained spirit, which had nearly
 the appearance and taste of the ordinary pure
 rumour of the shops I have given the name
 of "distilled spirituous essence of spiritous solution."

From experiments on this solution, I was
 of the opinion, that it was a powerful sepa-
 rator, but in order to obtain it in a more con-
 centrated form, and when he would administer
 it with more certainty and the dose, he
 evaporated the solution, and a residuum was
 left, which had many of the characteristic
 properties of the Turkey Opium.

A new method of collecting the extractum

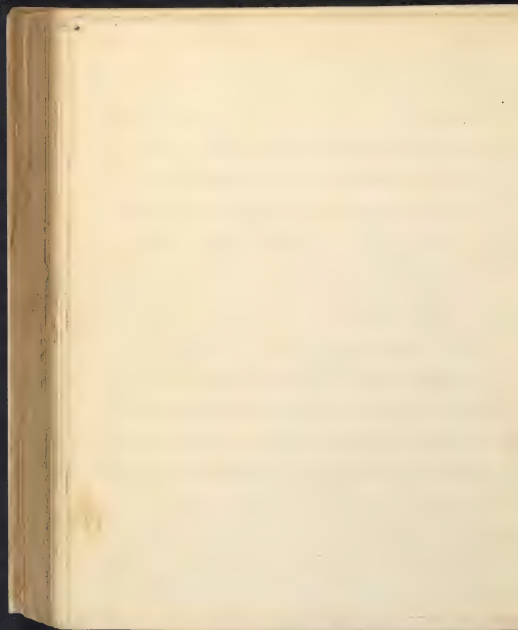


was directed by Mr. the Hon. put it
 in a letter written by him to the Hon. in the
 the only difference between his method and
 and the one just described, is that instead
 of suspending the exudation, to remain on the
 stalk until it had acquired the dark colour
 of Bruin, he removed it as fast as it exuded
 immediately afterwards, by the application
 to a piece of white cotton, or what has since
 been better, a piece of sponge. When the sponge
 was completely impregnated, he washed it
 out in clean warm water and exposed
 it in the sun. In this manner he was en-
 abled to collect as much in one day as he
 did in five, when the exudation was not re-
 moved, until it had acquired a dry state.
 He had the other, mounted in rows and set
 on the top of a wash room. When he be-
 came to the following method of collecting



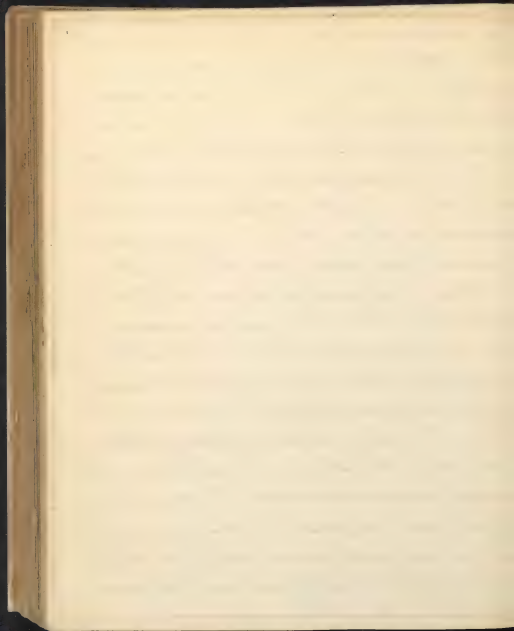
in our country. It is sold at a low price in
London. It is published in a note in Paris
Pharmacie, and is considered by the Sales
as the only one, by which the article can be
brought into market at a reasonable price.

I have the two others planted about eight
inches asunder in rows, between which
there is sufficient space to enable persons
to pass up and down without injuring the
plants. I commence my operations, just before
the plant is about to flower by cutting off
about 2 inches to the stem; the milk just immediately ex-
udes, and is collected on pieces of white cotton, that
have a hard square. As soon as this becomes
observed, it is thrown from time to time in a vessel
containing a small quantity of water, when
sufficiently impregnated it is evaporated at
the common temperature of the atmosphere, by
exposure in a number of shallow dishes



The Lactucarium in a few hours is found adhering to the paper in the form of an extract, but differing from every other in all its sensible properties: this method enabled me to collect Lactucarium with great facility and despatch but is still attended with considerable expense, as the quantity of milky product is necessarily very small, and the price of the medicine consequently high, and therefore not within the reach of general practice.

This consideration led me to make further experiments, for the purpose of ascertaining whether an Extract might not be obtained from the plant possessing all the properties of Lactucarium when administered in larger doses, and which could be introduced at a comparatively trifling cost. In prosecuting this enquiry, I found that the plants contain most of the milky juice, when they have flowered and the leaves



beginning to assume a yellow hue, and I
 remark that when cut down, the milky juice
 in the most part assumes a concrete form,
 being subsided in the bark of the stalk and

The old leaves, a circumstance which accoun-
 ts for the extreme bitterness of these. I
 was naturally led from these circumstances,
 to choose the above period for my operations,
 and to select those parts only of the plant
 for my extract rejecting the substance of
 the stalk, and the young sprouts. My me-
 thod of procuring the extract is as follows.
 I first macerate the parts in water, for
 twenty four hours, and then boil them
 for two, after which I allow the clear
 decoction to drain through a sieve, without
 using any pressure; this then is evaporated
 as far as it can be done with safety, and
 the process is finished in shallow dishes



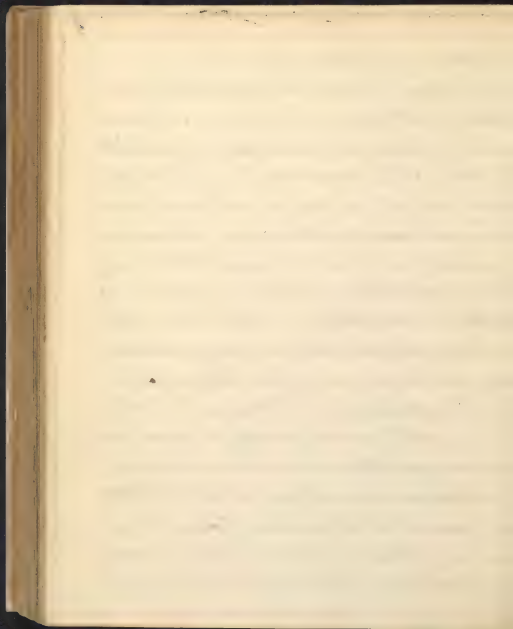
in the manner above described for obtaining Lactucarium. This extract which I have called *Lactaculum lactuca concentratum* is so-
 use less powerful than Lactucarium, but
 it possesses all the properties in larger doses,
 and it has been found equally useful, in
 a number and variety of cases, and is not
 more than the sixth part of the price."

The succous *Spissatus lactuca lactiva* of
 the shops, must of necessity be almost inert,
 since it is commonly prepared at that time,
 when the plant contains none or very little ju-
 ce juice; and even if the lettuce be employed
 at a more mature season, it must still fail
 to afford an extract of any strength, as it is
 merely the expressed juice, and that too of
 the whole plant indiscriminately, and will
 be found to contain a very minute proportion
 of Lactucarium, the great bulk being nothing

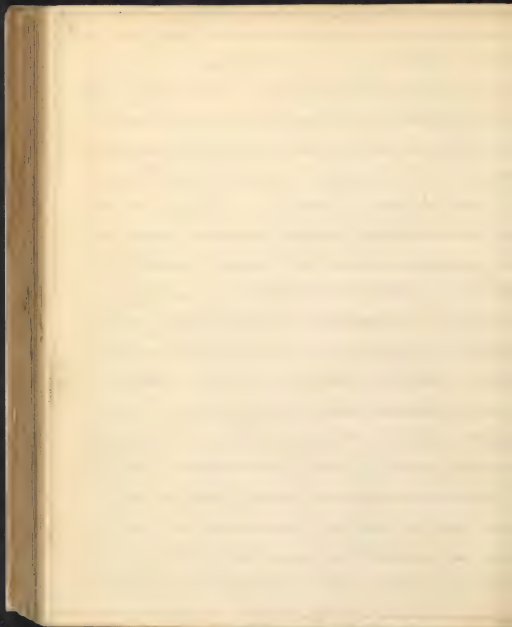


more than irritated over him!

I intended to collect the *Lactuca* as advised by Mr. Young, but found it laboured under one or two disadvantages not mentioned by him. 1st I invariably found, that after having cut off the tops of a whole row and having returned to collect it, it had exuded so rapidly and was so liquid, that a great part had dropped off, leaving but a small portion on the stalk; so that I was obliged to apply the bottles or sponges immediately on having cut off the tops, which made it very tedious and laborious. 2nd That it was with great difficulty, I could procure any quantity, owing to the smallness of the drops, being obliged to cut the stalks very near to the tops, where of course they are very slender, as there would be scarcely any exudation, were the tops to be cut off



... then ...
... the ...
... followed ...
... be able to obtain a sufficient ...
... my ...
... method ...
... of ...
... making my incisions in the manner advised by ...
... that the ...
... the ...
... the ...
... by making incisions ...
... about an ...
... and continued them up as far as ...
... to any incision a large dry ...
... and in some places almost ...
... a stream ...
... it up as fast as it ...
... with a sponge. After ...
... was sufficiently impregnated ...
... clean warm water and ...



is. It has it a much softer taste than all
 immatures & is in believed and incorporated.
 In this manner I have succeeded in
 procuring as much as I needed.

Pharmaceutical Preparations.

1. *Solutio Succi Spicata Rectifica*, prepared
 from the inspissated juice, gradually ex-
 amined from the plant when needed.
2. *Lactucarium* - an extract prepared by
 agitating the stem matter.

3. *Sinapere Lactucarii*, prepared by dis-
 solving Lactucarium in proof spirit & water
 in the same proportions as in forming the
 common liquid Steddanum of the same.

4. *Succus Spicatus Rectificatus*, this
 is prepared in the same manner as the
Succus Spicatus of the *Ann. de Pharm.* &
 was not very different in flavor, but much

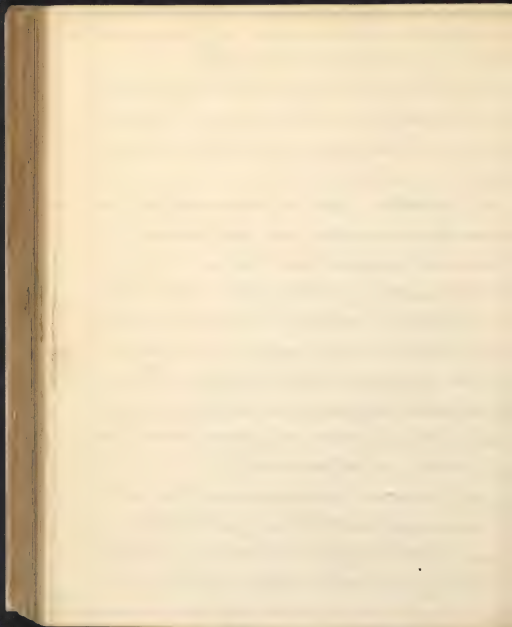


the form of Pills and Symples.

5 *Extractum Solisano lactucae*, prepared by extracting the active powers of the rillia, from the leaves of the said plant, by warm infusion in proof spirit.

6 *Extractum lactucae concentratum*, prepared by macerating the old leaves and stalks of the stalks in water, for twenty four hours, then boiling them for two, after which the clear decoction is allowed to drain through a sieve, without using any pressure, this is evaporated as far as it can be done with safety, and the mass is finished in shallow dishes, in the manner above described, for obtaining *Extractum*.

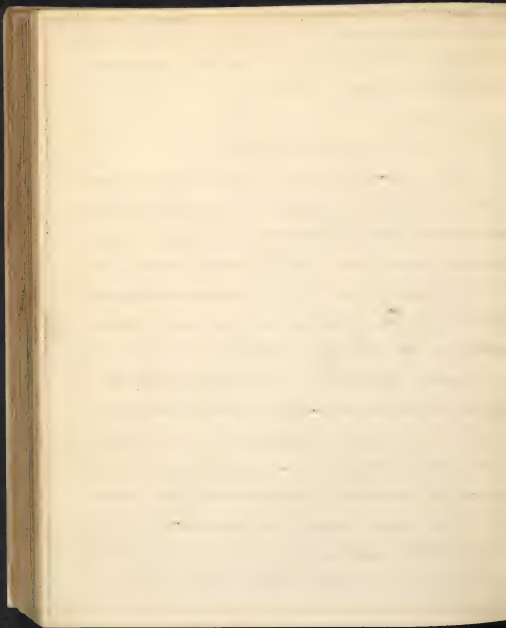
Dr. Linnæus, from whose excellent works on Consumption, the foregoing preparations are in part taken, prefers the *Extractum lactucae* and has frequently exhibited it with success.



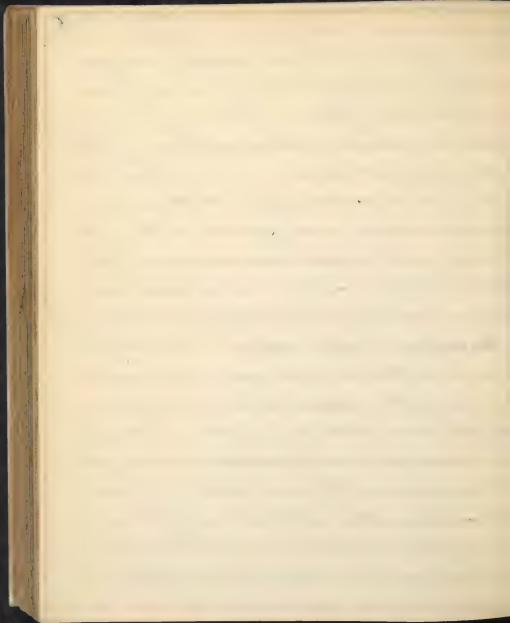
3.
was in many cases where the common sense
was strongly indicated.

Medical virtues.

Ever since the days of Galien, among the
ancients, who employed it as a cathartic in his
own case, this article like the papaver common
pinks, and many other plants, yielding a
milky juice, have been known to possess a
power of inducing sleep; but for a long time,
although constantly cultivated as a salad, it
was entirely neglected as a cathartic. After Pro-
fessor Boerhaave, its succour was the next to pre-
pare it in a regular form, and as I am but a
novice in the practice of medicine and of an expe-
rience quite limited, I shall be under the neces-
sity of confining myself almost exclusively to
observations taken from his writings. From
his experiments with this article, he was



but I believe there is a strong analogy between it and Opium. He was induced to use it in the place of Opium in Pulmonary Consumption on account of the disagreeable effects produced by the Opium in some individuals, who from a peculiarity of constitution, cannot make use of it in any quantity, without producing great inconvenience, congestion of the head, vertigo, sick up at the stomach, vomiting and various other distressing symptoms. He employed it with success in alluviating the cough in Phthisis and used it as a sedative in many other diseases and next to Opium he found no article so beneficial as Lachnium. It induces sleep, allays muscular action and alleviates pain, the great qualities of Opium, which demonstrate it to be one of the most powerful and certain sedatives. It does not produce nausea, costiveness or irritation,



the skin in a great degree as the Opium.

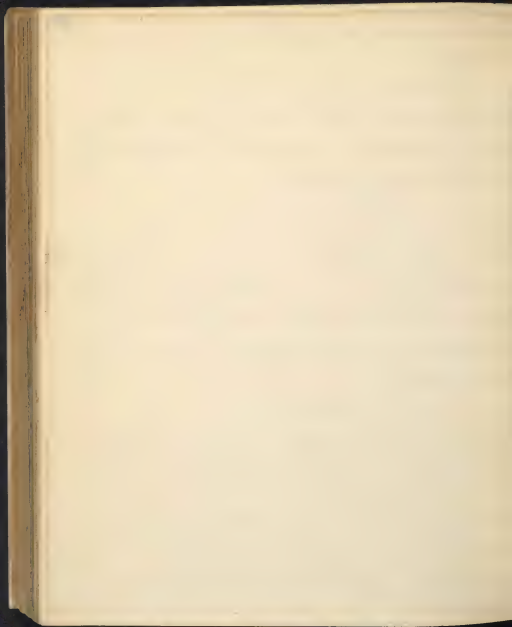
In order to ascertain the power of the
Lactucarium on the arterial system and the
analogy between it and Opium I instituted
the following experiments.

Experiment 1st

To my friend and fellow student, M^r Jones
whose pulse beat 72 in a minute, I gave a pill
containing $\frac{1}{2}$ of a grain of Lactucarium. By att
ention to his pulse, hardly any effect was
produced, or so slight that it was scarcely
perceptible.

Experiment 2nd

Having eaten a slight breakfast, and
taken very moderate exercise until 11 o'clock
I took a pill containing two grains of the
pure Lactucarium. By attention to my pulse
which beat 70 strokes in a minute the
following effects were produced.



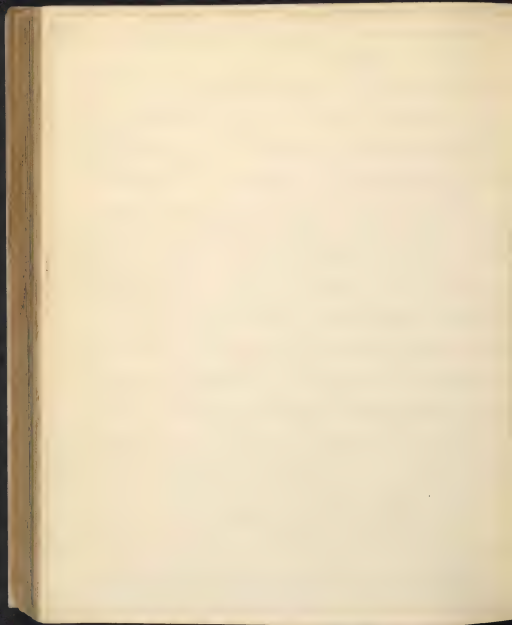
Minutes

Sec. 2. 16. 15. 24. 23. 21. 20. 19. 18. 17.
 70. 72. 75. 80. 81. 84. 87. 88. 89. 90. 91.

The pulse not only increased in frequency in the first hour, five minutes, but also in force and fullness, which gradually subsided as the superficial effects of the medicine began to take effect. In 30 minutes after I had taken it, I felt a slight inclination to sleep, which continued for some time and gradually disappeared. I had no slight pain in my head during the remainder of the day, but being subject to this headache for some time previous, I could not determine, whether it was produced by the iactocarium I had taken or not.

Experiment-3rd.

About the same time on the next day, my system being nearly in the same state.



as it was on the day previous, viz. 42 & 43
of the *Lactucarium* in pills. By attention to my
pulse the following effects were produced -

Minutes

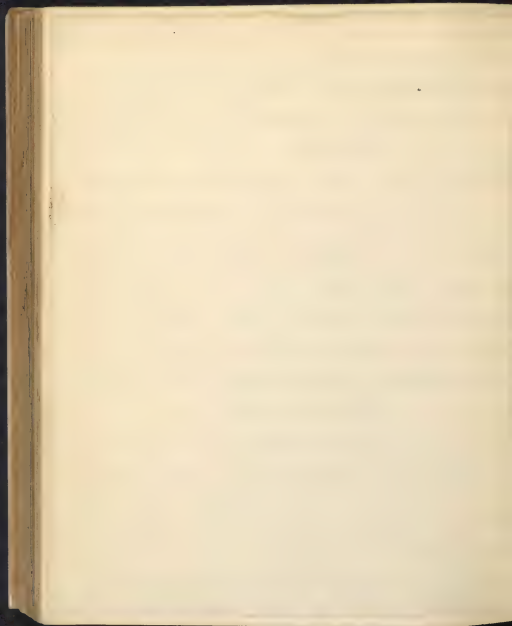
In 10. 15. 20. 25. 30. 35. 40. 45. 50. 55. 60. 70. 80
72 75. 80. 76 72 69 62 59. 54 59 59. 54 59

and continued from this time in about
the same state for two or three hours. I felt
a strong inclination to sleep, so much so,
that it was almost impossible to resist it.
This was succeeded by a severe pain in my
head which continued through the whole day.
Experiment 1st.

To my fellow student, G. Bonnet, aged 18 I gave
5 drops of the *vinetura lactucarii*, prepared as
advised by Dr. Suncow. By attention to his pulse who
beat 73 in a minute, the following effects
were produced -

Minutes

In 5. 10. 15. 20. 25 30 35 40. 45. 50. 56
73. 76. 76 81. 80 79. 74 69 66 62 62



From this time his pulse rose gradually to its natural standard. A good deal of uncertainty attended this experiment. I found if the last exercise was taken, Mr B's pulse was prodigiously accelerated, but when perfectly still, his pulse was unusually slow and full.

Experiment 5th

My Preceptor Thomas Hanner M.D. a former graduate of this University, feeling all the symptoms of an acute Catarrh rapidly approaching, took 3 grains of the Lactucarium and immediately went to bed. It produced a generous glow through the whole system, and ended in sound sleep. In the course of 4 or 5 hours, when he arose, the catarrhal symptoms were exchanged for those following the use of opodelmos, which soon disappeared and left him free from disease. This was done in imitation of the practice of Dr Hygie, who recommends

the first of the month of April 1861
I received from you a letter of the 28th
of March containing the information
that you had been elected a member
of the Board of Directors of the
American Anti-Slavery Society
and I am glad to hear of it
as it is a great honor and
a great responsibility
and I am sure that you will
discharge it to the satisfaction
of all who are interested in
the cause of the oppressed
and I am sure that you will
be a great blessing to the
cause of the oppressed
and I am sure that you will
be a great blessing to the
cause of the oppressed

laudanum, under similar circumstances. This
 experiment was completely successful.

Doth Case